

98N-1038

Dear Dr. Henney,

I urge you to check out  
the report of Dr. Jayalaxmi,  
from the University of Texas,  
regarding food irradiation.

From the enclosed article I  
surmise we are moving too  
fast for dollars sake, rather  
than safety sake.

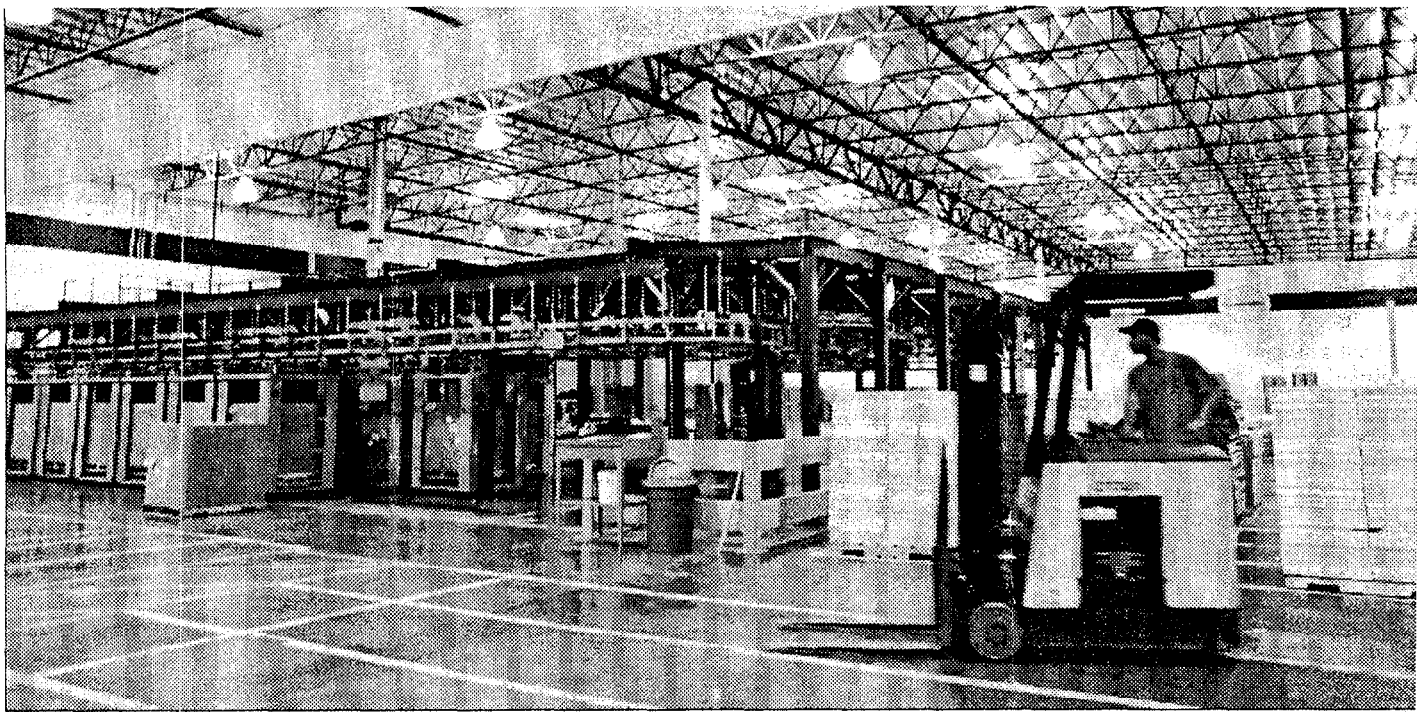
Thank you so much

Sincerely,

Edith Gingras  
1121 Nut Tree Lane,  
Modesto, Ca  
95355-4812

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The meek won't inherit the earth if the SteriGenics irradiation plant in Gilroy has anything to say about it.

# Honey, They Shrank Our Dinner!

*The wacky, not-so-wonderful world of food irradiation comes to the Central Coast, and with it concerns about health and safety.* **By Tammy Richardson**

## Food to Glow

**W**alking through Gilroy's new food irradiation plant is like passing through an abandoned city. The cubicles in the echoing office sit newly furnished but eerily empty, and inside the looming warehouse, the gray floor glimmers and the white walls and high ceilings are immaculate. Here, too, the space is mostly empty, with the exception of some neatly lined pallets loaded with cardboard canisters. In the center of this strange scene sits a high-tech miniature monorail system, a fully automated, surreal piece of Disneyland in a place whose sole purpose is to eradicate undesirable forms of life.

This is the newest food irradiation plant belonging to SteriGenics International, a company that has been helping

to sterilize our world for 20 years. Since coming on line in August, SteriGenics' Gilroy plant has trained gamma rays on about 6 million pounds of spices—mostly garlic and onion powders, herbs, botanicals, grape seeds and some protein powders. And it's done all of that with only 12 employees.

Irradiation is a divisive issue. Food processors tout the benefits of a safer food supply and longer shelf life, since irradiation reduces spoilage by killing bacteria and molds. They say the process is harmless, doesn't change the chemical composition of food and has been used without problems for years.

But opponents maintain that the safety of irradiation has never been demonstrated, that the process covers up sloppy food processing and that irradiation's effects on nutrition and health are still unknown. Besides, some say, it just seems wrong.

"You're completely changing the molecular structure of the food," says Wenonah Hauter, director of Public Citizen's Critical Mass Energy Project. "Your common sense tells you this cannot be healthy."

On the other hand, says Jeffery Barach, an irradiation advocate and vice president of special products at the National Food Processors Association. "Many myths have started about irradiated food because people didn't like the concept, and they're hard to dispel."

Of the roughly 40 irradiation facilities in the US, only about six are exclusively for treating food. Irradiation, for all its lack of publicity, has been quietly terminating unwanted life forms on everything from medical equipment to condoms for 40 years. Its use on food, however, has only incrementally gained FDA approval: in 1983 it was approved

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# COAST WEEKLY

Monterey County's largest  
circulation newspaper.

May 11-17, 2000. Issue #611

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**Address** 668 Williams Ave., Seaside, CA 93955.

**Telephone** (831) 394-5656 or 757-5656,  
Classifieds 393-3939.

**Fax Sales** (831) 394-0409, Editorial 394-2909.

**URL** www.coastweekly.com, www.salinasweekly.com.

Printed on recycled paper.



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for use on spices, in 1986 for fruits and vegetables, in 1990 for poultry, and the past February, for red meat.

At SteriGenics, workers load pallets of garlic and onion powder off trucks from Watsonville and Salinas processing plants and stack them onto the mono-rail cars. The pallets wind their way through a lead-sealed tunnel until they reach a nuclear radiation chamber about the size of a small bedroom. There they receive 40 minutes of radiation, 10 minutes per side.

**"Many myths have started about irradiated food because people didn't like the concept, and they're hard to dispel."**

—Jeffery Barach, vice president of special products at the National Food Processors Association

Radiation is measured in terms of kiloGrays, and anywhere from one to 30 kGy's of gamma radiation are shot through food depending on its density and the stubbornness of its bacteria. Fresh fruits, for example, can take no more than one kGy to kill pests and slow ripening, whereas spices, in order to control mold or bacteria, can withstand up to 30. (For reference, the radiant energy of one kGy is equivalent to that of about 10 million x-rays.)

But irradiating food does not make it radioactive. Unlike in the production of nuclear power, atoms aren't being split here. It's more like the x-ray machines at airport security checkpoints, notes Barach: the energy passes through, then dissipates.

#### **It's Good for You!**

One of the scientific arguments against irradiation is that as the gamma rays move through cells, they rip apart molecules and break chemical bonds. And left behind are very reactive ions and free radicals that crash into one another and form new chemicals. Two examples are benzene and formaldehyde, both known carcinogens.

The FDA maintains that irradiation doesn't cause harmful chemical changes, and points to its endorsement by the World Health Organization and the American Medical Association. But opponents insist that the toxicity of free radicals hasn't been adequately studied.

One Dr. Vijayalaxmi of the health and science center at the University of Texas is responsible for one of the most enduring and troubling studies about the effects of eating irradiated food. Her research in the 1970s for the National Institute of Nutrition in India showed that malnourished children who were fed irradiated wheat suffered chromosomal breaks and genetic abnormalities which can lead to cancer.

Because Vijayalaxmi's research has

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have longer shelf lives and kill the bugs, food can be produced with slave labor, basically, then brought back to the developed world to be sold, and you maximize profit and further take the 'family' out of the family farm."

Observes Louria, "There's a lot of money involved in all of this. A lot of money."

That much is obvious, but plenty about irradiation isn't. And while the experts argue over whose information is correct and whose study is corrupt, one irradiation plant just up the road continues quietly altering the molecular structure of food, all in the name of saving money and making our world a little safer.

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never been duplicated in this country using sophisticated technology, the question of genetic damage has never been adequately settled, says Dr. Donald Louria, chairman of the department of preventive medicine at New Jersey Medical School.

"A reputable group of scientists has to conduct a proper study in this country," he insists. "It's imprudent, and that's the gentlest word I could use, to have this as widely disseminated technology and subject the entire population to what amounts to an unregulated experiment before doing the testing."

Another major concern about irradiation is the potential for nutrient loss. Proponents concede that a little nutrient loss occurs as a result of irradiation, but no more than results from other processing methods such as cooking, canning and heat pasteurization.

Louria, who says he's not opposed to the technology if certain issues are addressed, wishes the FDA would assess how nutritious irradiated food really is. It would be a simple test, he explains, in which human volunteers would agree to eat irradiated products, and it would only take a matter of months to determine how much, if any, nutrient loss had occurred.

"And so far they won't do them," he says. "They need to look at the trade-off of extending shelf life versus nutrient loss."

#### If It Says Radi-a-dia-tion on the Label, Label, Label...

To quell consumers' fears, the food industry is lobbying to change the current labeling requirements to downplay the nuclear angle. It wants to eliminate any words associated with radiation and replace them with "cold pasteurization."

"It's a little more consumer friendly," explains Pat McCullough, SteriGenics' plant manager. "Seeing 'radiation' on the package might scare consumers."

The word "radiation" appears on very few foods as it is. The international radura symbol, petals in a broken circle, along with the phrase "treated with radiation" or "treated by irradiation," must be on the label of any whole food that has been irradiated. It's not required, however, on foods that simply contain irradiated ingredients or are obviously processed.

So an irradiated apple would be labeled, but if it were made into applesauce it wouldn't, because it would then be considered processed. And processed foods don't have to be labeled unless meat is a major ingredient.

Thanks to recent outbreaks of E. coli, the public has become suspicious of the food on its table, meat in particular. In February, FDA finally approved irradiated meat. The Wal Mart in Beatrice,

Nebraska recently announced its intention to test market the new product.

"I think people's preference will be for these products," says Barach. "It will give them an extra measure of safety to be able to buy meat with no pathogens."

But opponents argue that the meat industry needs to clean up its sloppy practices, not just try to cover up dirty food that has just had the bacteria killed by zapping it at the end of the line.

"This is about urine, piss and feces in the meat and irradiating the bacteria," says Hauter. "This is not just about having a safer meat supply. Why not just have more inspectors and slow down the assembly lines?"

But the FDA says it isn't a substitute for proper food manufacturing and handling procedures. And that, as always, consumers should handle their meat appropriately and be sure to cook it thoroughly.

Yet another concern about irradiation plants is the threat to workers and the environment.

"The track record thus far has been lousy in terms of not contaminating the local environment," says Louria, noting that virtually every New Jersey plant has a record of environmental contamination, worker overexposure and regulatory failings.

The radioactive material bound for SteriGenics' Gilroy plant comes from Canada on trucks carrying two to three casks, huge lead containers weighing seven tons each. They are approved by the Transportation Department for transporting radioactive material, but critics nevertheless worry about accidents during transportation.

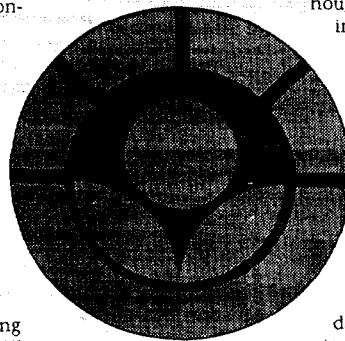
And they are concerned about workers. SteriGenics notes that its radiation protection officers receive 40 hours of classroom training, that the plant does a monthly safety check and that it's inspected by the state once a year.

But employees wear no special protective clothing—just your basic blue mechanic-type uniform.

The irradiator runs 24 hours a day, seven days a week. It's rarely turned off except, for example, to clear jams. If anything goes wrong, the entire radiation mechanism is plunged 16 feet down into a stainless steel-lined pool of water, which acts as a shield to stop the emission of gamma radiation.

Health, nutrition and environmental hazards aside, critics say the big picture of the irradiation push is about the globalization of the food market. In other words, money.

"It's all about shelf life," says Hauter. "This is about moving agriculture south of the border. They're building facilities in Mexico and Brazil because if you



The international radura symbol appears on whole foods that have been irradiated.

EDITH GINGRAS  
1121 NUT TREE LANE  
MODESTO, CA 95355-4812



Jane Henney, M.D.  
Food & Drug Administration  
Parklawn Bldg  
5600 Fishers Lane  
Bethesda, Md 20852-1750  
20857

20852/1750